

The above amendments find support as follows: replacing "cyclic allylic" with --cyclic olefinic-- is supported at p. 5, lines 20 and 24; replacing "composition" with --compound-- is intended to address the objections to the disclosure and claims 1-11, given that these claims refer to a single chemical entity; and the amendments of claims 1, 12, 30, 61, and 78 incorporate the limitations previously recited by dependent claims 3, 14, 32, and 91.

Objections to the specification

The Examiner objected to the phrase "cyclic allylic" as being a misnomer, and suggested the phrase "cyclic olefinic" would be more appropriate. The above amendment is intended to comply with this objection. Similarly, the term "composition," also objected to by the Examiner where it referred to a polymer comprising a polymeric backbone, cyclic olefinic pendant groups, and linking groups linking the pendant groups to the backbone, has been replaced with "compound."

Objections to the claims

The Examiner objected to claims 1-29 on the grounds that the term "composition" was not proper when referring to a chemical entity, specifically, a polymer comprising a polymeric backbone, cyclic olefinic pendant groups, and linking groups linking the pendant groups to the backbone. Applicants do not dispute this objection as it applies to claims 1-11, and present the above amendment to comply. However, Applicants do traverse this rejection as it applies to claims 12-29. "Composition" is an accepted term to refer to two or more different molecules that are present together but are not chemically bonded to one another. This is the case for the composition of claims 12-29, which comprise a polymer and a transition metal catalyst. Claim

12, as amended above, is punctuated to more clearly indicate the nature of the composition. Therefore, Applicants believe the objection to claims 12-29 should be withdrawn.

Rejections under 35 U.S.C. §112, second paragraph

W/D
Claims 1-98 are rejected under 35 U.S.C. §112, second paragraph, as failing to particularly point out and distinctly claim the subject matter of the invention. Specifically, the Examiner alleges that the specification describes the making of terpolymers using the antioxidant Irganox and a titanium catalyst, but the claims (specifically, claims 7-8, 18-19, 36-37, and 94-95) recite only titanates. Applicants respectfully traverse this rejection.

The Examiner points to Examples 1-3 as teaching the need for an antioxidant in the making of the terpolymers. However, the specification at p. 20, lines 11-17, describes transesterification to generate terpolymers without describing any antioxidant as being required. Further, the specification at p. 31, lines 9-16, states that Examples 1-3 are non-limiting. Therefore, Applicants believe the claims distinctly recite the subject matter of the invention, and request that this rejection be withdrawn.

Rejections under 35 U.S.C. §102

Claims 1-2, 5-8, 12-14, 16-19, 23-32, 34-37, 41-78, 85-90, and 92-95 are rejected under 35 U.S.C. §102(e) as being anticipated by Ching et al., U.S. Patent No. 5,859,145 ("Ching et al."). Specifically, the Examiner alleges that Ching et al. discloses polymers comprising pendant ester, ether, or allylic moieties useful in oxygen scavenging packaging.

In response, Applicants present the amendments of claims 1, 12, 30, 61, and 78 given above. The Examiner recognizes that Ching et al. does not teach the specific cyclic olefins

named e.g. by original claim 3 (see Examiner's Detailed Action of January 7, 2000, at p. 5, second paragraph under point 7). The amended claims 1, 12, 30, 61, and 78 incorporate the limitations of e.g. claim 3, viz. the cyclic olefinic pendant groups have the structure I which Ching et al. does not teach. All other rejected claims are dependent on these, and thus also incorporate this limitation to cyclic olefinic pendant groups with the structure I. Therefore, Ching et al. does not teach every element of the rejected claims, and the rejection of claims 1-2, 5-8, 12-14, 16-19, 23-32, 34-37, 41-78, 85-90, and 92-95 should be withdrawn.

Rejections under 35 U.S.C. §103

W/D
Claims 1-2, 4-8, 12-14, 15-19, 23-31, 33-37, 41-78, 81-82, 85-90, and 92-95 are rejected under 35 U.S.C. §103(a) as being unpatentable over Ching et al. Specifically, the Examiner alleges that styrene and ethylene copolymeric backbones are suggested by Ching et al., and that other differences between the present claims and Ching et al. are a matter of engineering choice. Applicants respectfully traverse.

Whatever Ching et al. may or may not teach or suggest regarding styrene and ethylene copolymeric backbones, and matters of engineering choice, is irrelevant. Ching et al. does not teach the specific cyclic olefins presently claimed, nor does this reference suggest that such cyclic olefins should be used. Ching et al. does not recognize the benefit that the presently-claimed cyclic olefinic pendant groups provide, which is that they are less likely to fragment or cleave upon oxidation, and thus minimize malodor and off-taste problems in food packaging. This benefit is described in the specification at p. 5, lines 18-25. Because Ching et al. neither teaches nor suggests the use of the specific cyclic olefinic pendant groups presently claimed, the rejection should be withdrawn.

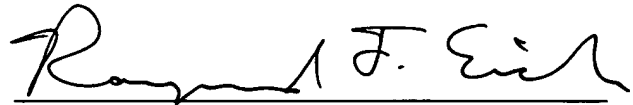
Also, claims 3, 9, 10-11, 14-15, 20-22, 32, 38-40, 79-80, 83-84, 91, and 96-98 are rejected under 35 U.S.C. §103(a) as being unpatentable over Ching et al. in view of Pampus et al., U.S. Patent No. 3,873,644 ("Pampus et al."). Specifically, the Examiner alleges that Pampus et al. teaches the use of cyclic olefinic groups as graft moieties on vinylic polymers, which the Examiner further alleges would have been obvious to employ in the polymers of Ching et al. Applicants respectfully traverse.

No One of ordinary skill in the art would have no motivation to combine the teachings of Ching et al. and Pampus et al. Pampus et al. is directed to the ring-opening graft polymerization of cycloalkenes, not to the production of oxygen scavenging polymers. Like Ching et al., Pampus et al. neither teaches nor suggests that cyclic olefinic pendant groups can be used in oxygen scavenging polymers and give rise to the advantages of reduced malodor and off-taste that distinguish the presently claimed invention. The ring-opening graft polymerization of the cyclic olefins of Pampus et al. leads one away from the cyclic olefinic pendant groups of the present invention, which exhibit the above advantages because they remain cyclic in the final product. Further, at col. 2, lines 21-27, Pampus et al. specifically excludes cyclohexenyl cyclic olefins, which the present invention teaches are preferred. Therefore, Applicants believe this rejection cannot properly be made, and should be withdrawn.

In summary, Applicants believe all pending claims 1-2, 4-13, 15-31, 33-90, and 92-98, as amended above, are in condition for allowance. The Examiner is invited to contact the

undersigned patent agent at 713.934.4065 with any questions, comments or suggestions relating to the referenced patent application.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Raymund F. Eich", written over a horizontal line.

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